



# GUARDIAN OF PUBLIC HEALTH UPDATE

March 18, 2011

## Preparedness and Planning

### Factors Associated with Influenza Vaccination Status of Rural Japanese Residents

A study by researchers in *BMC Public Health* used the Health Belief Model to identify perceptions of influenza vaccination in a rural Japanese community. An anonymous self-administered questionnaire was mailed to 846 randomly chosen households in a rural town in the southern part of Kyoto, Japan. The [data showed](#) that that vaccination coverage can be increased if accurate information on personal risk, severity of influenza illness, and efficacy of vaccination are provided by responsible information sources that are easily accessible. Medical facilities were an example of a reliable information source.

### Severe Weather Awareness Week

Each year the Michigan Committee for Severe Weather Awareness, emergency management officials, and the news media work together to educate the public on which precautions should be taken to save lives and protect property and families during severe weather. The week of March 27 - April 2, 2011 has been declared as Severe Weather Awareness Week in Michigan. For more information on how to prepare for severe weather, see the Michigan State Police's "[2011 Severe Weather Awareness](#)" guide and visit the Michigan Committee for Severe Weather Awareness website.

### Crisis Response Toolkit for Public Health Response Authorities

The Centers for Disease Control released a new toolkit titled: Community Assessment for Public Health Emergency Response (CASPER). [This toolkit](#) was designed to help epidemiologists and public health authorities in the collection of important health intelligence during a large-scale disaster. The data collected will help in the decision-making process on how to proceed during disasters.

### Medical Response to Nuclear Accidents

As public concern is rising about the health a consequence of radiation exposure, authors in Bulletin of the Atomic Scientists [demonstrate](#) how lessons from the Chernobyl nuclear disaster can aid in future medical response to radiation exposure. The authors believe dealing effectively with a nuclear disaster requires policy decisions, public education, and, as a last resort, medical preparedness and interventions.

### Disaster Response Preparedness Report

The Yale New Haven Center for Emergency Preparedness and Disaster Response Preparedness Report is a [digest of informational links](#) that contain current news clips, press releases and new information from a variety of sources on the subject of emergency preparedness and disaster response that may be of value to you.

## News

### Reducing Consequences of Nuclear Detonation

The Federal Emergency Management Agency is excited to announce the next webinar in the community preparedness webinar series: Reducing Consequences of Nuclear Detonation. This series provides up-to-date information on community preparedness topics and resources available to citizens, community organizations, and Citizen Corps Councils. [This webinar](#) took place March 15, and it is available to view online at your convenience.

### FEMA and National Disability Rights Network Sign Agreement

On March 11, the Federal Emergency Management Agency (FEMA) and the National Disability Rights Network [signed a memorandum](#) of agreement that further strengthens their growing partnership to ensure that the access and functional needs of people with disabilities are incorporated into all aspects of planning for, responding to and recovering from disasters.

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Read the Next *Guardian* Issue!  
April 8, 2011

### **Life, Liberty and the Pursuit of Vaccines**

Dr. Howard Markel in the *New York Times* addresses the issue of antivaccine supporters claim that vaccination programs go against the framework of the founding fathers. He cites that history has evidence that Benjamin Franklin, John Adams, and George Washington all supported vaccination. Benjamin Franklin lost his son, Francis Franklin at the age of four and since reminded others of the importance of vaccinating their children.

### **Community Health Impact of Extended Loss of Water Service**

During January 2010, 18,000 residents of rural counties in Alabama lost access to municipal water for up to 12 days when below-freezing temperatures led to breaks in water mains, causing widespread systematic mechanical failures. Upon investigation by the Alabama Department of Public Health and the Centers for Disease Control and Prevention (CDC), it was discovered households, communities, water utilities, and institutions were not adequately prepared for water emergencies in areas of communication and notification, planning for alternative water sources, and interagency coordination. In addition, there was a significant higher prevalence of acute gastrointestinal illness among residents of households that lost both water service and water pressure. Health effects from loss of water supply or water pressure might be mitigated by public health involvement in fostering household, community, and interagency preparedness, and developing communication strategies that will reach the majority of citizens in a timely manner. CDC recommendations for public health agency involvement in water emergency preparedness:

- Develop a water emergency response protocol.
- Develop a water distribution plan.
- Develop a communications toolkit for water emergencies.
- Provide guidance for household preparedness.
- Provide guidance for institutional (health-care facilities, schools, and businesses) preparedness.



### **Mapping Human Vulnerability to Climate Change**

Researchers at McGill University have forecasted the potential impacts of climate change on human populations in 2050. The research team found that low-latitude, tropical regions of the world will be most severely affected by increasing global temperatures due to increased challenges in agriculture.

### **Integrating Culturally Diverse Communities into Emergency Planning and Response**

The disproportionate destruction and costs in lives and quality of life for racially and ethnically diverse communities resulting from Hurricane Katrina and other recent public health events have served as tragic and recurring reminders of the longstanding inequities that exist in times of emergency. In recognition of these priorities and the continuing need to bring together resources to address them, the U.S. Department of Health and Human Services supported the creation of a novel expert group to develop and issue cohesive guidance on integrating diverse populations into planning for and responding to emergencies. This document builds and integrates recommendations distilled from the consensus-based discussion.

# Surveillance

## Deforestation and Emerging Diseases

[This article](#) describes the link between deforestation and emerging infectious diseases, citing the case of the Nipah virus in Malaysia. Other infectious diseases associated with deforestation include yellow fever, dengue, Rocky Mountain spotted fever and Lyme disease.

## Army Enlists 'DNA Origami' to Spot Outbreaks

Wired Science – Danger Room Blog discusses the Army's newest way to spot [smallpox outbreaks](#). Antibodies are excellent markers to spot bioweapons, however, they are too fragile to withstand war zone use. The solution is a technique that takes a single strand of DNA and folds it, like the Japanese art of origami, into two and threedimensional shapes. These shapes can then be used to detect bioweapons in the field.

## Miami Area Confirms Second Locally Acquired Dengue Case

The Miami-Dade County (FL) Health Department received confirmation of the second [locally acquired case](#) of dengue fever. The individual was diagnosed based on symptoms and laboratory diagnosis. Dengue is caused by any one of four related viruses transmitted by mosquitoes. There are not yet any vaccines to prevent infection with dengue virus (DENV) and the most effective protective measures are those that avoid mosquito bites. When infected, early recognition and prompt supportive treatment can substantially lower the risk of developing severe disease.

# Communications

## 9/11 Communications Failures Still Unfixed in NY

The communications failures that led to the deaths of hundreds of first responders on 9/11 still haven't been fixed, despite tens of millions of dollars spent on elaborate radio systems in lower Manhattan. On February 24, the Port Authority of New York and New Jersey (PA) [approved \\$130 million](#) for the design and construction of a massive communications system at the 16-acre World Trade Center site, which the bi-state agency owns. The problem is that the PA is not following recommendations to install a whole new system, but is instead expanding its antiquated radio infrastructure — which is being discontinued by the manufacturer and is not compatible with the emergency communications setup of the New York Police Department and the Fire Department of New York.

## FEMA Blog: Engaging Voluntary Agencies

Voluntary agencies are a vital part of a community's ability to prepare for, respond to and recovery from disasters. Before a disaster, voluntary agencies help communities and families get prepared by providing disaster training, raising awareness regarding vital health and safety issues. After a disaster strikes, voluntary and faith-based organizations respond alongside state and local emergency responders, helping to address immediate needs of survivors. At the Federal Emergency Management Agency, they engage the vitally important voluntary agency sector through [Voluntary Agency Liaisons](#) (VALs). VALs act as a bridge between the community and the government.

## Pandemic Planning

### **Effects of Vaccination and Population on Influenza Epidemic Spread in the Presence of Two Circulating Strains**

In *BMC Public Health* researchers study how population-level dynamics of coexisting influenza infections affects vaccination strategies. They used a Markov network to extend a previous model of two co-circulating influenza viral strains by including vaccination (either prior to or during an outbreak), age structure, and heterogeneity of the contact network. They explore the effects of changes in vaccination rate, cross-immunity, and delay in appearance of the second strain, on the size and timing of infection peaks, attack rates, and disease-induced mortality rate; and compare the outcomes of the network and corresponding homogeneous models. The [research showed](#) vaccination ahead of an outbreak is more effective than vaccination during an outbreak. They also found that contact and age structure significantly influence the propagation of disease in the population.

### **Assessing the Ecotoxicologic Hazards of a Pandemic Influenza Medical Response**

Researchers in *Environmental Health Perspectives* studied how antivirals and antibiotics given to treat influenza affect the surrounding environment. They utilized three models to test the environmental impact: a global spatially-structured epidemic model that simulates the quantities of antiviral and antibiotics used during an influenza pandemic of varying severity, with a water quality model to determine predicted environmental concentrations, and a final model was used to assess the effects of antibiotics on microorganisms in waste water treatment plants and rivers. The [data showed](#) the severity of the pandemic predicted the environmental effects. They predict that waste water treatment plants may discharge insufficiently treated waste water into the environment which may lead to microorganism resistance to medication present in the water.

## Regional News

### **Region 2 South Prepares for the New Madrid National Exercise**

Since the beginning of FY 2010-2011, the Region 2 South (R2S) Healthcare Coalition has been working with the other members of the Transportable Emergency Surge Assistance (TESA) Executive Committee to develop Michigan's role in the upcoming NEWMADRID Exercise. The National Level Exercise will be taking place in Lansing from May 15-20, 2011 and will illustrate the combined planning and operational efforts of R2S, Fifth District Medical Response Coalition (5DMRC), and the Michigan Department of Community Health Office of Public Health Preparedness (MDCH OPHP). R2S developed and maintains Michigan's one-hundred bed mobile medical facility designed to augment healthcare resources by providing expanded surge capacity and providing emergency triage and treatment in areas where healthcare infrastructure has been comprised. During this federal exercise, the R2S TESA will be combined with 5DMRC's twenty-five to forty-bed TESA for the first time to simulate relief efforts for those affected by an earthquake on the New Madrid fault line.

Exercise preparations have not only focused on scope, logistics, and the identification of equipment and supplies but have also helped define and form the foundation of the personnel needed to activate and operate the mobile medical unit. In 2011, R2S established a Technical Support Team and a Mobile Medical Field Team (MMFT) to construct and operate the TESA Unit housed in Southeast Michigan. In March 2011, the Technical Support Team was trained

on the inner workings of TESA equipment, transportation, and construction. R2S is currently forming the MMFT whose mission will be to run medical operations during activation and will train these individuals during the exercise. The New Madrid Exercise will also serve as a training platform for other regions in Michigan, all of which are required to form their own regional MMFTs.

Aside from testing activation, transportation, and integration procedures, this exercise will allow the TESA Executive Committee to identify gaps in preparedness planning and continue to enhance the mobile assets before they are called to deploy for an actual incident. R2S is looking forward to the opportunity to identify best practices and demonstrate TESA's utility to state and federal leaders during the exercise.

## Training & Education

### American Red Cross Unveils Revised First Aid/CPR/AED Training

The American Red Cross has revised its First Aid/CPR/AED program, making it more convenient for people to learn how, until advanced medical help arrives, to help others in distress. The [new ARC program](#) emphasizes hands-on learning. Those participating in the program will have many training options, including training at a Red Cross chapter or an organization's own facility, taking classes online, or receiving instruction from an authorized provider.

Date/Time	Event	Location
Mar. 21, 2011	<b>Public Health and Radiation Emergency Preparedness</b> <a href="#">This conference</a> provides state and local health officials and their partners with the tools necessary to develop and implement response and recovery plans related to mass casualty radiation events. Visit the conference website for more information.	Atlanta, GA
Mar. 24, 2011	<b>Is Your Teen Ready for Adult Life?</b> This workshop is for families of teens (or professionals who serve them) with special health care needs, receiving mental health services, or who have a disability. Information and practical suggestions will be shared for helping teens prepare to transition from high school to employment, high school to higher education, home to independent living, and/or from child to adult community services. CEUs are available. Cost: \$10-\$15. <a href="#">Click here</a> for more information, including registration information.	Ann Arbor, MI  Additional MI Locations: Apr. 28 - Alpena Apr. 29 - Sault Ste. Marie
Apr. 1, 2011	<b>Michigan Epidemiology Conference</b> This year's conference will feature a keynote address by Dr. Eric Noji, called by some the Father of Disaster Epidemiology. Dr. Noji is a Senior Associate Professor of Epidemiology; Chairman & CEO of Noji Global Health & Security LLC. He will be speaking on the epidemiological aspects of disaster relief and preparedness. Additional details are posted on the <a href="#">Michigan Public Health Association website</a> .	University of Michigan School of Public Health Crossroads Building Ann Arbor, MI



Date/Time	Event	Location
Apr. 3, 2011	<b>E-Beam and X-Ray Irradiation Technologies</b> The National Center for Electron Beam Research (NCEBR) serves as an unbiased venue for academic, government, and industry scientists to carry out strategic electronic pasteurization and sterilization research and commercial projects using E-beam and X-rays. To address the needs of the food, phytosanitary, agribusiness, and pharmaceutical industries the NCEBR is organizing a week-long hands-on <a href="#">workshop</a> in E-Beam and X-ray technologies in April 2011.	400 Discover Drive College Station, TX 77845
Apr. 9, 2011	<b>Accessing Health Care Coverage &amp; Services for MI-Child Training</b> This workshop is for people who serve as "support parents" to fellow parents of children with special needs. Support parents will be able to identify types of public health care coverage available, apply for benefits online, list services available to children and families with hereditary disorders, get information on accessing coverage for mental health services, and become familiar with social security programs for young people. CEUs are available. Cost: \$10-\$15. <a href="#">Click here</a> for more information, including registration information.	Lawrence, MI  Additional Dates: Apr 30 - Petoskey, MI
Apr. 11, 2011	<b>2011 Emergency Preparedness Solutions for Long Term Care Conference</b> Both federal and state laws require skilled, licensed long term care facilities to have a written disaster plan. This conference will provide attendees with resources, templates, personal experiences and lessons learned from prior disaster experiences, while allowing time for networking with partners in emergency preparedness. This conference is open to Michigan long term care administrators, directors of nursing, social work directors, safety/emergency preparedness officers, and surveyors. Please note there is a limit of two representatives per facility. There is no fee for attending this conference. For more information, including registration details, please visit the <a href="#">MI-TRAIN website</a> and search for course ID#: 1025029.	Suburban Collection Showplace Novi, MI
May 2, 2011	<b>Supporting Youth into Healthy Productive Adulthood</b> This workshop is for individuals working with young people in faith-based organizations, schools, and youth groups in Wayne County. Participants will explore ways to give parents/caregivers, teachers, and others working with children the tools they need to make responsible decisions. CEUs are available. Cost: \$10-\$15. <a href="#">Click here</a> for more information, including registration information.	Detroit, MI  Additional MI Locations: May 7 - Detroit
May 3, 2011	<b>Great Lakes Homeland Security Training Conference &amp; Expo</b> This <a href="#">annual conference</a> brings together more than 1,200 attendees from a variety of disciplines including law enforcement, fire, public health and health care, school administration, emergency management, and the private sector.	Grand Rapids, MI

Date/Time	Event	Location
May 5, 2011	<b>Great Lakes Border Health Initiative Conference</b> Save the date for this important international conference. As more information becomes available, it will be posted on <a href="#">Michigan's border health webpage</a> .	Niagara Falls, NY
May 12, 2011	<b>2011 EMS Summit</b> This three-day conference provides excellent information and training opportunities for pre-hospital providers. There are over 20 credits available, including specialty credits. Visit the <a href="#">Huron-Sanilac EMS network website</a> for more information including agenda, speaker bios, and registration details.	Bavarian Inn Lodge Frankenmuth, MI
May 25, 2011	<b>Communicable Disease Conference</b> <a href="#">This conference</a> seeks to provide the latest knowledge on communicable disease diagnosis, surveillance, reporting, laboratory test interpretation, and incorporation of epidemiologic principals. The target audience includes communicable disease nurses, epidemiologists, medical officers, health officers, infection control professionals, environmental health specialists, physicians, or any other health professional interested in communicable diseases.	Doubletree Hotel Bay City, MI
Jun. 19, 2011	<b>21st World Conference on Disaster Management</b> This year's <a href="#">conference</a> will bring emergency response and management delegates from over 40 countries. The WCDM offers a program that challenges delegates by examining traditional concepts and methods, and provides: new ideas and approaches to problem solving; both leading edge and topical presentations; opportunities to connect with key individuals and organizations across the disaster management spectrum.	Metro Convention Center Toronto, CANADA
Jul 6, 2011	<b>2011 Chemical Security Summit</b> The <a href="#">fifth annual summit</a> will provide a forum for representatives from the chemical community to exchange information and network with other security professionals, to share best practices, to find out about chemical security regulations, and to gain insight into the roles of state, local, and federal agencies and departments involved in chemical security.	Baltimore, MD



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